Micro Laser Displacement Sensor
LM10

Related Information
■ General terms and conditions..... F-17
■ Glossary of terms / General precautions...P.1397 / P.1405
■ Sensor selection guide .....P.967~
■ About laser beam.....P.1403~

panasonic-electric-works.net/sunx

Conforming to EMC Directive

Recognition

FDA Conforming to FDA regulations (ANR11□□1 and ANR12□□1 only)

This product is classified as a Class 1 / Class 2 Laser Product in IEC / JIS standards and a Class II Laser Product in FDA regulations.
Do not look at the laser beam directly or through optical system such as a lens.

Micron order displacement measurement with photoelectric sensor sensitivity!

High-precision measurements, comparative output (amount of light / displacement) function

In addition to conventional analog output, it is equipped with standard ON / OFF control output (single / double comparator) enabling its use as a photoelectric sensor. It is compatible for “micro-spotting” and “high-precision” applications normally reserved for lasers.

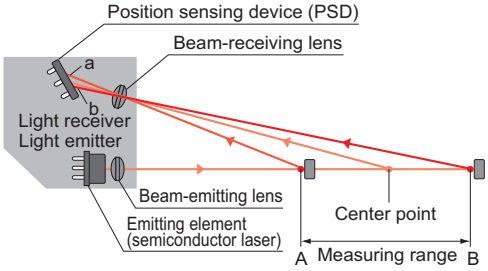
Setting modes and types of ON / OFF control

Type	Standard mode	Intensity mode
Window comparator	Distance judgment (3 value output)	No mode setting
Single comparator	Distance judgment (2 value output)	Intensity judgment (2 value output)

Distance judgment: ON / OFF control on the basis of distance measurement.
Intensity judgment: ON / OFF control on the basis of received light level.

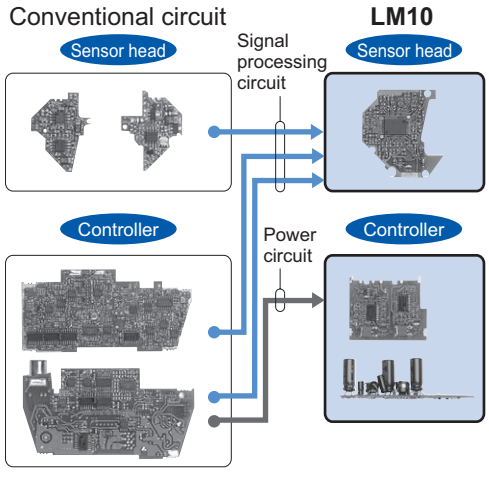
Measurement principle of LM10 (optical triangulation)

Part of the light rays which come from the target object by means of diffuse reflection produce a light spot on the position sensing device (PSD). This light spot varies depending on the displacement of the target object. By measuring the fluctuations in the light spot, **LM10** can measure the distance of the target object.

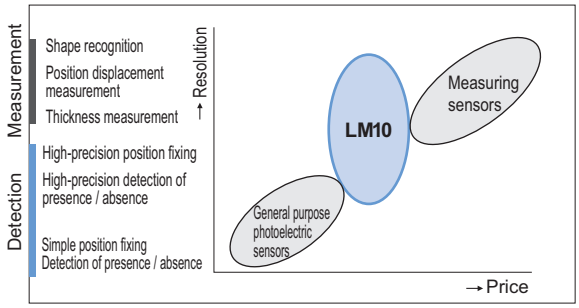


New circuitry lowers costs

LM10 uses the single-channel IC, which reduces the dual-channel processing requirement of conventional products to a single channel. Building the arithmetic circuits into the IC has made it possible to reduce costs.



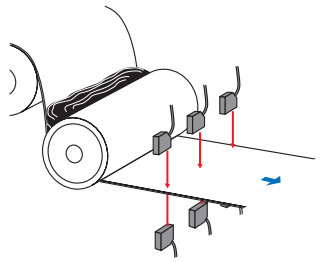
The LM10’s cost-performance ratio far outstrips the competition



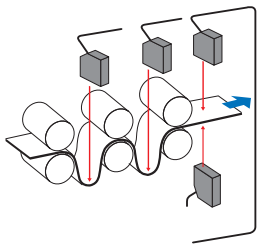
FIBER SENSORS
LASER SENSORS
PHOTOELECTRIC SENSORS
MICRO PHOTOELECTRIC SENSORS
AREA SENSORS
LIGHT CURTAINS
PRESSURE / FLOW SENSORS
INDUCTIVE PROXIMITY SENSORS
PARTICULAR USE SENSORS
SENSOR OPTIONS
SIMPLE WIRE-SAVING UNITS
WIRE-SAVING SYSTEMS
MEASUREMENT SENSORS
STATIC CONTROL DEVICES
ENDOSCOPE
LASER MARKERS
PLC / TERMINALS
HUMAN MACHINE INTERFACES
ENERGY CONSUMPTION VISUALIZATION COMPONENTS
FA COMPONENTS
MACHINE VISION SYSTEMS
UV CURING SYSTEMS
Selection Guide
Laser Displacement
Magnetic Displacement
Collimated Beam
Digital Panel Controller
Metal-sheet Double-feed Detection
HL-G1
HL-C2
HL-C1
LM10

APPLICATIONS

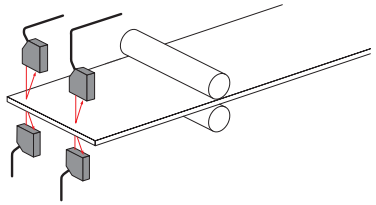
Measuring packing-tape thickness



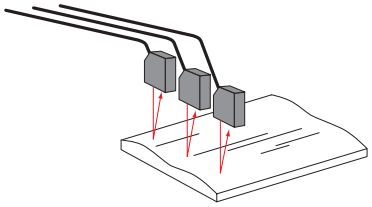
Slack detection



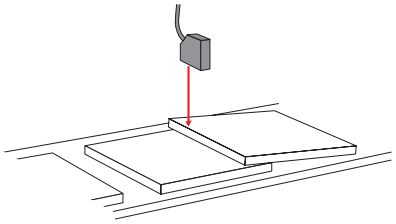
Measuring board thickness



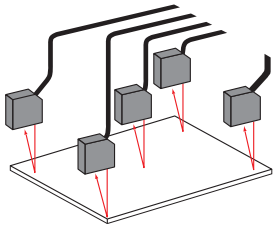
Wood surface form detection



Construction material overlap detection



Asymmetry detection



BASIC PERFORMANCE

Use LM10 with confidence. It meets for Class 1 laser safety (IEC standards)

In addition to our laser Class 2 products, a full line of Class 1 products have been added. Development of a high-precision aspheric surface plastic lens has made it possible to maintain both high precision and Class 1 safety. The visible light spot makes it easy to see and safe to use.

Globally usable

This micro laser sensor **LM10** comply with the requirements of the relevant EC Directives (CE marking). Not only can they work well in devices made for European industry but also possess enhanced electromagnetic environment performance making them safe to use. For the controller's comparative output, in addition to the NPN transistor output, the PNP transistor output is also available.

CE

VARIETIES

Interchangeable sensor heads

18 models of sensor heads and 4 models of controllers can be freely combined in 72 different ways. Unlike with conventional sensors, these heads and controllers are completely interchangeable to meet any type of measuring and processing requirements, so there is no need for pair management of heads and controllers.

Excellent in the following circumstances...

- **When carrying out repairs**

Suppose an accident on the production line damages the sensor head.

With the micro laser displacement sensor LM10...

...all you have to do is replace the sensor head. As long as there is a spare sensor available, the problem can be solved without stopping the production line.

- **When changing to a different model**

Suppose that after purchasing the sensor it becomes necessary to switch to a different model due to changes in the object you are measuring.

With the micro laser displacement sensor LM10...

...all you have to do is buy a new sensor head. The current controller need not be replaced.